

WHAT IS CLAIMED IS:

✓ 1. A method for inhibiting the action of TNF for treating sensorineural hearing loss in a human by administering etanercept for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human, comprising the step of:

a) administering a therapeutically effective dosage level to said human of said etanercept for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human.

2. A method for inhibiting the action of TNF in accordance with Claim 1, wherein the step of administering said etanercept is performed by delivering said therapeutically effective dosage level through the subcutaneous route.

3. A method for inhibiting the action of TNF in accordance with Claim 1, wherein the step of administering said etanercept is performed subcutaneously in said human wherein said dosage level is in the range of 5mg to 50mg.

4. A method for inhibiting the action of TNF in accordance with Claim 1, wherein the step of administering said etanercept is performed subcutaneously by delivering said etanercept dose to the

subcutaneous tissue overlying one of the mastoid processes of said human.

5. A method for inhibiting the action of TNF for treating sensorineural hearing loss in a human by administering D2E7 for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human, comprising the step of:

a) administering a therapeutically effective dosage level to said human of said D2E7 for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human.

6. A method for inhibiting the action of TNF in accordance with Claim 5, wherein the step of administering said D2E7 is performed by delivering said therapeutically effective dosage level through the subcutaneous route.

7. A method for inhibiting the action of TNF in accordance with Claim 5, wherein the step of administering said D2E7 is performed subcutaneously in said human wherein said dosage level is in the range of 5mg to 50mg.

8. A method for inhibiting the action of TNF in accordance with Claim 5, wherein the step of administering said D2E7 is performed subcutaneously by delivering said D2E7 dose to the

subcutaneous tissue overlying one of the mastoid processes of said human.

9. A method for inhibiting the action of TNF in accordance with Claim 5, wherein the step of administering said DE27 is performed by delivering a therapeutically effective dosage level through the intravenous route.

10. A method for inhibiting the action of TNF for treating sensorineural hearing loss in a human by administering infliximab for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human, comprising the step of:

a) administering a therapeutically effective dosage level to said human of said infliximab for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human.

11. A method for inhibition the action of TNF in accordance with Claim 10, wherein the step of administering said infliximab is performed by delivering a therapeutically effective dosage level through the subcutaneous route.

12. A method for inhibiting the action of TNF in accordance with Claim 10, wherein the step of administering said infliximab is

performed subcutaneously in said human wherein said dosage level is in the range of 5mg to 50mg.

13. A method for inhibiting the action of TNF in accordance with Claim 10, wherein the step of administering said infliximab is performed subcutaneously by delivering said infliximab dose to the subcutaneous tissue overlying one of the mastoid processes of said human.

14. A method for inhibiting the action of TNF in accordance with Claim 10, wherein the step of administering said infliximab is performed by delivering a therapeutically effective dosage level through the intravenous route.

15. A method for inhibiting the action of TNF in accordance with Claim 10, wherein the step of administering said infliximab is performed intravenously in said human wherein said dosage level is in the range of 1.0 mg/kg to 20mg/kg.

16. A method for inhibiting the action of TNF for treating presbycusis in a human by administering etanercept for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human, comprising the step of:

a) administering a therapeutically effective dosage level to said human of said etanercept for reducing the

inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human.

17. A method for inhibiting the action of TNF for treating  
5 presbycusis in a human by administering D2E7 for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human, comprising the step of:

a) administering a therapeutically effective dosage  
10 level to said human of said D2E7 for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human.

18. A method for inhibiting the action of TNF for treating  
presbycusis in a human by administering infliximab for reducing the  
15 inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human, comprising the step of:

a) administering a therapeutically effective dosage  
20 level to said human of said infliximab for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human.

19. A method for inhibiting the action of TNF in accordance with Claim 16, wherein the step of administering said etanercept is performed by delivering said therapeutically effective dosage level through the subcutaneous route.

5 20. A method for inhibiting the action of TNF in accordance with Claim 16, wherein the step of administering said etanercept is performed subcutaneously in said human wherein said dosage level is in the range of 5mg to 50mg.

21. A method for inhibiting the action of TNF in accordance with Claim 16, wherein the step of administering said etanercept is performed subcutaneously by delivering said etanercept dose to the subcutaneous tissue overlying one of the mastoid processes of said human.

22. A method for inhibiting the action of TNF for treating hearing loss in a human by administering etanercept for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human, comprising the step of:

20 a) administering a therapeutically effective dosage level to said human of said etanercept for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human.

23. A method for inhibiting the action of TNF for treating hearing loss in a human by administering D2E7 for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human, comprising the step of:

a) administering a therapeutically effective dosage level to said human of said D2E7 for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human.

24. A method for inhibiting the action of interleukin-1 for treating hearing loss in a human by administering IL-1 RA for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human, comprising the step of:

a) administering a therapeutically effective dosage level to said human of said IL-1 RA for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human.

25. A method for inhibiting the action of interleukin-1 for treating hearing loss in a human by administering IL-1 R type II for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human, comprising the step of:

a) administering a therapeutically effective dosage level to said human of said IL-1 R type II for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human.

26. A method for inhibiting the action of TNF for treating hearing loss in a human by administering thalidomide for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human, comprising the step of:

a) administering a therapeutically effective dosage level to said human of said thalidomide for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human.

27. A method for inhibiting the action of TNF for treating hearing loss in a human by administering infliximab for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human, comprising the step of:

a) administering a therapeutically effective dosage level to said human of said infliximab for reducing the inflammation affecting the auditory apparatus of said human, or for



modulating the immune response affecting the auditory apparatus of said human.

28. A method for inhibiting the action of TNF and interleukin-1 for treating hearing loss in a human by administering a TNF antagonist and an interleukin-1 antagonist for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human, comprising the steps of:

a) administering a therapeutically effective dosage level to said human of said TNF antagonist for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human; and

b) administering a therapeutically effective dosage level to said human of said interleukin-1 antagonist for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human.

29. A method for inhibiting the action of TNF and interleukin-1 in accordance with Claim 28, wherein the step of administering said TNF antagonist is performed by delivering a therapeutically effective dose of etanercept.

30. A method for inhibiting the action of TNF and interleukin-1 in accordance with Claim 28, wherein the step of administering said TNF antagonist is performed by delivering a therapeutically effective dose of D2E7.

5 31. A method for inhibiting the action of TNF and interleukin-1 in accordance with Claim 28, wherein the step of administering said interleukin-1 antagonist is performed by delivering a therapeutically effective dose of IL-1 RA.

32. A method for inhibiting the action of TNF and interleukin-1 in accordance with Claim 28, wherein the step of administering said interleukin-1 antagonist is performed by delivering a therapeutically effective dose of IL-1 R type II.

33. A method for inhibiting the action of TNF and interleukin-1 in accordance with Claim 28, wherein the step of administering said interleukin-1 antagonist is performed by delivering a therapeutically effective dose of IL-1 RA, and the step of administering said TNF antagonist is performed by administering a therapeutically effective dose of etanercept.

34. A method for inhibiting the action of TNF for treating hearing loss in a human by administering a TNF antagonist selected from the group consisting of etanercept, infliximab, D2E7, or CDP 571 for reducing the inflammation affecting the auditory apparatus

of said human, or for modulating the immune response affecting the auditory apparatus of said human, comprising the step of:

5 a) administering a therapeutically effective dosage level to said human of said TNF antagonist by delivering an anatomically localized application in the region of the head for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human, wherein the TNF antagonist is selected from the group consisting of etanercept, infliximab, D2E7, or  
10 CDP 571.

35. A method for inhibiting the action of TNF in accordance with Claim 34, wherein said TNF antagonist is administered by delivering a local ear instillation via ear drops in a therapeutically effective dose.

36. A method for inhibiting the action of TNF in accordance with Claim 34, wherein said TNF antagonist is administered by delivering through the transepidermal route in a therapeutically effective dose.

37. A method for inhibiting the action of TNF in accordance with Claim 34, wherein the step of administering said TNF antagonist is performed transepidermally in said human wherein said dosage level is in the range of 10mg to 100mg.

38. A method for inhibiting the action of TNF in accordance with Claim 34, wherein said TNF antagonist is delivered by transmucosal administration.

39. A method for inhibiting the action of TNF for treating hearing loss in a human by administering a TNF antagonist for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human, comprising the step of:

a) administering a therapeutically effective dosage level to said human of said TNF antagonist for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human.

40. A method for inhibiting the action of interleukin-1 for treating hearing loss in a human by administering an interleukin-1 antagonist for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human, comprising the step of:

a) administering a therapeutically effective dosage level to said human of said interleukin-1 antagonist for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human.

41. A method for inhibiting the action of TNF for treating hearing loss in a human by administering a TNF antagonist and an antiviral medication for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human, comprising the steps of:

a) administering a therapeutically effective dosage level to said human of said TNF antagonist for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human, and;

b) administering a therapeutically effective dosage level to said human of said antiviral medication for reducing the inflammation affecting the auditory apparatus of said human, or for modulating the immune response affecting the auditory apparatus of said human.

42. A method for treating hearing loss in a human in accordance with Claim 41, wherein said TNF antagonist is etanercept.

43. A method for treating hearing loss in a human in accordance with Claim 41, wherein said antiviral medication is selected from the group consisting of famciclovir, acyclovir, and valaciclovir.

~~44.~~ A method for treating hearing loss in a human,  
comprising the steps of:

a) administering a therapeutically effective dose to  
said human of etanercept; and

5 b) administering a therapeutically effective dose to said  
human of an antiviral agent selected from the group consisting of  
famciclovir, acyclovir, and valaciclovir.